

REMARKS

Claims 1 and 6-17 have been canceled. Claims 2, 18 and 23 have been amended to further clarify the claimed invention. Claims 19, 21 and 22 have been amended to incorporate the modified language of amended claims 2 and 18. No claims have been withdrawn. No new matter has been added. Now pending in the Application are claims 2-5 and 18-24, of which claims 18, 23 and 24 are independent.

The cancellation of claims 6-17 should in no way be construed to be an acquiescence to any of the rejections stated. Claims 6-17 are being cancelled solely to expedite the prosecution of the present application. Applicants reserve the option to further prosecute the same or similar claims in the instant or a subsequent patent application.

Page 7 of the Office Action states that the Office Action is made final. Applicants assume that this was a typographical error in light of the Office Action Summary, on which “2b) This action is non-final” is marked, and in light of page 2 of the Office Action that states, “the finality of the last Office Action is withdrawn.”

Claim Rejections – 35 USC § 112

Claims 2-7, 10, 14-15, 18, 21 and 23-24 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Applicants respectfully traverse these rejections with the above claim amendments and the following arguments.

Rejection of claims 2-7, 10, 14-15 and 23:

The Office Action states that there is insufficient antecedent basis for the limitation “first security data” and “new security data” in claim 2. Claim 2 has been amended to address this rejection. Amended claim 2 recites “security function” and “new security function”, whose antecedent basis appears in claim 23, from which claim 2 depends. Withdrawal of the rejection of amended claim 2 is respectfully requested.

The Office Action states that there is insufficient antecedent basis for “the vehicle controller” as recited in claims 3 and 5. Claims 3 and 5 depend directly from claim 23 which

recites “A vehicle controller”, thus, “the vehicle controller” of claims 3 and 5 has proper antecedent basis. Withdrawal of the rejection of claims 3 and 5 is respectfully requested.

Claims 6-17 have been canceled, thus, the rejection of 6, 7 and 14-15 is moot.

The Office Action states that the “use of a security function to authenticate and external rewriting device”, is unclear in claim 23. Claim 23 has been amended to clarify the intended use/process: “by comparing a result of the security function with a security feature of the external rewriting device.” Withdrawal of the rejection of claim 23 is requested.

Rejection of claims 18 and 21:

The Office Action states that there is no linking step between the “new security data” and the “first security data” as recited claim 18. Claim 18 has been amended to replace the phrase “new security data” with “receiving a result of a second security function expressible as an algebraic equation” and to replace “first security data” with “a first security function expressible as an algebraic equation”. The Office Action also states that the “use of a first security data,” is unclear in claim 18. Claim 18 has been amended to specify the method step: “determining whether rewriting to the rewritable memory is permitted by the external rewriting device using a result of the first security function.” Withdrawal of the rejection of claim 18 is respectfully requested.

The Office Action states that there is insufficient antecedent basis for “the rewriting device” in claim 21. Applicants amended claim 21 to recite “the external rewriting device”. Applicants respectfully submit that “an external rewriting device” as recited in amended claim 18, from which claim 21 depends, provides proper antecedent basis. Withdrawal of the rejection of claim 21 is respectfully requested.

Rejection of claim 24:

The Office Action rejects claim 24 as it states that the claim recites “both a system and a method of using the system” and that claim 24 overlaps two different statutory classes of invention. Claim 24 is directed to a “memory rewriting system for a vehicle controller ...wherein the vehicle controller is configured to” perform certain operations. Claim 24 recites a

system with a particular configuration, thus, it falls into only one statutory class of invention. Withdrawal of the rejection of claim 24 is respectfully requested.

Claim Rejections- 35 USC § 103

Claims 6, 8-10, 16-19, and 22-24 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 5,621,380 of Mutoh et al. (hereafter Mutoh). Claims 6-17 have been cancelled, thus, their rejection is moot. Applicants respectfully traverse the rejection of claims 18-19 and 22-24 in view of the above amendments and the following arguments.

The present invention is generally directed to a memory rewriting system for a vehicle controller. The system includes a vehicle controller adapted to communicate with an external rewriting device.

In contrast, Mutoh is generally directed to a vehicle anti-theft system in which a registration of an ID code of a new key to a vehicle side cannot easily be made by an ill-intentioned third party. That is, if a registered learning key (L-key) is inserted, and operation keys are successively inputted, the renewal mode for the ID code is activated to rewrite the ID codes of the previously registered operation keys with ID codes of subsequently inserted operation keys in the first memory.

Rejection of claims 6, 8-10, and 16-17

Claims 6-17 have been cancelled, thus, the rejection of claims 6, 8-10 and 16-17 is moot.

Rejection of claim 18, 19 and 22:

Applicants respectfully submit that Mutoh fails to teach or suggest “*a result of a second security function expressible as an algebraic equation,*” as recited in amended claim 18. Mutoh teaches a system that uses ID codes. In Mutoh, identification of the key is performed by the reading the ID code of the key and comparing that ID code to the ID code stored in memory. In contrast, claim 18 includes the step of using the result of security functions expressible as algebraic equations, the second security function received from an external rewriting device in communication with the vehicle controller. The Office Action cites reference number (10) as

the rewriting device in Mutoh. The reference number (10) refers to the ICU or immobilizer control unit which is installed in the car as part of the security system. It is not an external rewriting device. As can be seen in FIGS. 1 and 2 of the present application, the external rewriting device (11) is external to the car itself and separate from the anti-theft system (81). Mutoh does not teach or suggest a method which includes a security function expressible as an algebraic equation used to authenticate an external rewriting device, thus, Mutoh does not teach or suggest each and every element of amended claim 18. Claims 19 and 22 depend from claim 18. Accordingly, claims 19 and 22 are patentable as being dependent on an allowable base claim in addition to their own claimed characteristics. Reconsideration and withdrawal of the rejection of claims 18, 19 and 22 is requested.

Rejection of claim 23:

Applicants respectfully submit that Mutoh fails to teach or suggest a vehicle controller including, *“a security function expressible as a first algebraic equation used to authenticate an external rewriting device,”* as recited in claim 23. As was discussed in the previous section, Mutoh does not teach or suggest a security function expressible as a first algebraic equation or an external rewriting device, thus, Mutoh fails to teach or suggest each and every element of claim 23, which is therefore allowable. Reconsideration and withdrawal of the rejection of claim 23 is requested.

Rejection of claim 24:

Applicants respectfully submit that Mutoh fails to teach or suggest all of the elements of claim 24. Specifically, Applicants submit that Mutoh fails to teach or suggest, *“release a security feature that prevents the rewritable memory from being rewritten if it is determined that there is the predetermined relationship therebetween; delete the second security data after release of the security feature; and write third security data received from the rewriting device, different from the first security data, into the rewritable memory,”* as recited in claim 24. In claim 24, the memory rewriting system includes a vehicle controller that can compare the second (original) security data in its rewritable memory with the first security data in the rewriting device. If the predetermined relationship exists between the two then the rewriting device can rewrite the rewritable memory in the vehicle controller, write third (new) security data to the vehicle controller and delete the second (original) security data in the vehicle controller. The

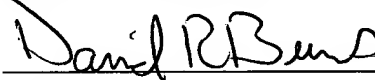
system of Mutoh does something very different. In column 4, lines 61+, Mutoh is registering new operation keys (codes), but Mutoch never teaches or suggests changing the L-key (code). The operation keys (codes) allow someone to start the engine, but the L-key (code) is necessary to rewrite the rewritable memory. If the L-key (code) is compromised, then the security system is useless as the L-key (code) cannot be changed. The invention specified in claim 24 solves this problem by providing a system that allows the security function controlling access to the rewritable memory to be replaced. Mutoh does not disclose each and every element of claim 24, which is therefore allowable. Reconsideration and withdrawal of the rejection of claim 24 is requested.

CONCLUSION

In view of the above amendments and remarks, Applicants submit that Mutoh does not teach or suggest each and every element of claims 2-5 and 18-24. Applicants respectfully request the Examiner to reconsider and to withdraw the current rejections and pass the claims into allowance.

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Respectfully submitted,



David R. Burns

Registration No.: 46,590

LAHIVE & COCKFIELD, LLP

28 State Street

Boston, Massachusetts 02109

(617) 227-7400

(617) 742-4214 (Fax)

Attorney/Agent For Applicant